

Exercising Patterns

Reporting Category Patterns, Functions, and Algebra

Topic Identifying, creating, and extending growing and repeating patterns

Materials

- Movement Cards sheet (attached)
- Colored linking cubes
- Scissors
- Sentence strips with growing patterns made with letters
- Glue

Vocabulary

pattern, core, repeating pattern, growing pattern

Student/Teacher Actions (what students and teachers should be doing to facilitate learning)

Note: Prior to conducting this activity, make enlarged copies of the attached movement cards.

1. Have students stand up and push in their chairs. Use enlarged movement cards to create a simple repeating pattern on the board (e.g., jump, high five, stretch up, high five, jump, high five, stretch up, high five). Ask students to do the movements shown by the cards. Ask students what they just did. Responses may include exercising, jumping, making a pattern, and moving. If/when students mention a pattern, emphasize that they made a special pattern called a “repeating pattern.”
2. Ask whether someone could use the linking cubes to show the *same repeating pattern* that was just shown with movements (e.g., red, blue, green, blue, red, blue, green, blue). Once the pattern is made, ask another student to extend it.
3. Continue having students create repeating movement patterns and modeling them with linking cubes until students have a strong grasp of identifying and extending repeating patterns.
4. Use the enlarged movement cards to create a growing pattern on the board (e.g., high five, run, high five, high five, run, high five, high five, high five, run). Allow students to observe and then act out this movement pattern for several minutes. Pose the questions, “Is this a pattern? Is this a repeating pattern? Why, or why not?” Engage students in a class discussion about a growing pattern, leading them to understand that a growing pattern is one that gets bigger—that *grows*.
5. Ask a student to make this same growing pattern with linking cubes (e.g., red, blue, red, red, blue, red, red, red, blue). Ask students to discuss with their neighbors what might come next in this pattern, and have students share ideas about extending the pattern.
6. Continue having students create growing movement patterns and modeling them with linking cubes until they have a strong grasp of identifying and extending growing patterns.

7. Distribute copies of the Movement Cards sheet, scissors, and glue. Also, give each student a sentence strip with a different growing pattern made of letters. Direct students to cut out movement cards and glue them to the sentence strip to show the same growing pattern that the letters show (e.g., the sentence strip shows ABB, ABBBB, ABBBBBB, the student would glue down movement cards in that same pattern).
8. When students have finished making their growing patterns with movement cards, have them share with other students and act out the movements to check the pattern.

Assessment

- **Questions**
 - What comes next in this number pattern: 6, 9, 12, 15, _____? How do you know?
 - How can you create a letter pattern that matches this pattern 😊😊😞😞😊😊😞😞? Can you change the letters to numbers? If so, how?
- **Journal/Writing Prompts**
 - Describe some patterns that you see in real life, and identify them as either repeating patterns or growing patterns. What type of pattern do you see most often in real life?
 - Use the rest of your movement cards to create a pattern. Tell whether this is a growing pattern or a repeating pattern, and explain how you know.

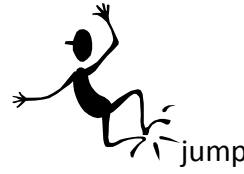
Extensions and Connections (for all students)

- When exploring repeating and growing patterns with numbers, provide students hundred charts and colored chips. Give them directions such as, “Cover the number 2. Add 4 more, and cover the next number (6). Add 4 more, and cover the next number (10). What number will you cover now? Is this pattern growing or repeating?”

Strategies for Differentiation

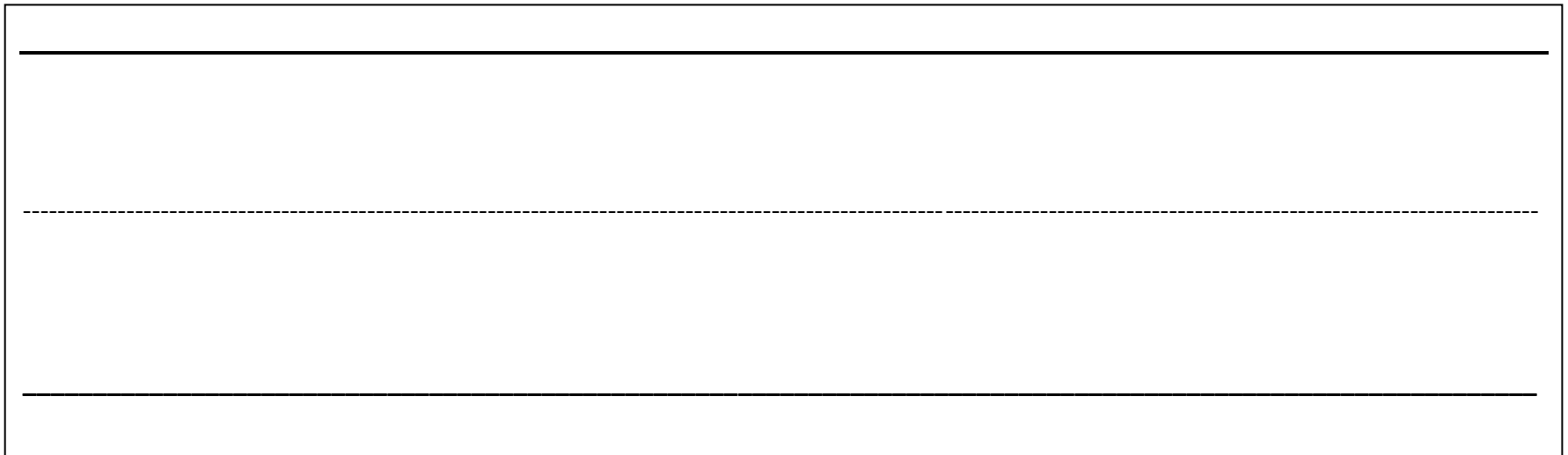
- This lesson requires physical movement that some students may be unable to perform. For such students, create other movement cards that they can imitate (e.g., snapping, clapping, smiling, frowning, nodding).

Movement Cards



Sentence Strip Template

(Add Letters)



A rectangular box containing three horizontal lines for writing. The top line is solid, the middle line is dashed, and the bottom line is solid. The box is empty, intended for a student to write a sentence.